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ABSTRACT

The third wave of conservation--a movement directed at improving the quality of our total environment and developing an environmentally literate, responsive, and responsible citizenry--is highlighted in this speech, serving as the basis and need for developing environmental education programs. Identifying and developing educational programs that focus on the causes of the environmental crisis, rather than just the symptoms, is advocated. The task is to help every citizen, young and old, gain an awareness, understanding, and concern for the environment and its associated problems. Every institution in our society must be involved in environmental education. The responsibility does not rest merely with the schools and government; it must be shared by business, industry, labor, mass media, churches, and youth, citizens, and professional organizations. To assist in this process, basic concepts that undergrid and support the philosophy of spaceship earth are explained together with the means of achieving knowledge, skill, commitment, and motivation in working toward solutions of current and projected problems. Particular note is made of Michigan's activities in preparing a State Environmental Education Plan. Objectives, citizen input, and planning procedures are delineated and desirable, future actions recommended. (PL)

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THE CHALLENGE OF ENVIRONMENTAL EDUCATION

by

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The Challenge of Environmental Education

The third wave of conservation started to sweep across our nation in the early 1960's. It was a natural outgrowth of the conservation movement which began a hundred years earlier--a movement characterized by three phases--preservation, management, and environmental quality.

Prior to the conservation movement, there was little indication of man exhibiting a land ethic. Michigan's history is replete with examples of a lack of concern for the land and its resource. With the opening of the Welland Canal in 1817, the lumberman began to move into our state. Between 1840-1890 Michigan was the number one lumber state. Over 5,000 portable sawmills were in operation. The lumbermen slashed their way across the state leaving the land bare and the valuable top soil vulnerable to erosion. As the lumberjacks removed the trees from our forests and skidded them into our Michigan streams, trout spawning beds were destroyed. With the trees removed from the banks of our rivers, the waters became warmer and laden with silt. It was during this period that the Grayling disappeared from the Michigan scene.

There was a need for a national leader to awaken the public to the great waste and destruction of our natural resources. The opportunity presented itself when George Perkins Marsh wrote his classical book, "Man and Nature," in 1864. This marked the beginning of the preservation phase of the Conservation Movement. However, it was during the Theodore Roosevelt administration that this movement received its greatest thrust. During his two administrations he used his voice, pen and official influence to set aside over 150,000,000 acres of national forest land; established our first wildlife sanctuary; withdrew 80 million acres of potential mineral bearing land from

the public domain pending its classification; added four big game refuges, five national parks, and numerous national monuments to our federal land holdings; and put an end to the ruthless slaughter of herons and egrets in the bayou's of Louisiana and the Everglades of Florida.

With land being removed from the public domaine it soon became clear that policies were needed to manage our timber, wildlife, fish and mineral resources. It was between 1910 and 1930 that many national conservation policies concerning the management of our land, water, and air began to take form. The preservation and management thrusts of conservation arose to meet specific problems of our times.

As a result of past action, we have made great strides in preserving and managing our natural resources on national, state, and county lands. There is now need to escalate the third wave of conservation--a movement directed at improving the quality of our total environment and developing an environmentally literate, responsive, and responsible citizenry.

It is important to remember that in the past 50 years the United States has become a predominately urban nation, both in thought and physical character. Large and middle sized communities, many within complex urban regions have evolved to where over 70% of our population resides on one and one-half percent of our nation's land surface. Consequently, the independent rural oriented living that once characterized this country's social and political heritage is no longer a dominating influence in the lives of most Americans. With over 70% of the people living in communities, the term "environment" has come to include city life and its surroundings--and rightfully so. Greater attention should be given to community environmental problems, such as: air, water, and noise pollution; traffic congestion; urban decay; environmental health problems; indiscriminate use of pesticides; and the lack of in-

stitutional arrangements needed to cope effectively with environmental problems. To resolve these problems requires a more responsible performance from everyone--whether that "one" be citizen, corporation, or government.

The third wave of conservation marks the beginning of a new set of societal values. The new value system is beginning to place quality ahead of quantity. It calls for a new life style--based on the requirements of living with and within our environment. It recognizes that industry must be responsible to all of society, not just to its stockholders. It is concerned that business not promote the "newer, better, and bigger", without being aware of and responsible for what happens to the newer, the bigger, and the better." It is vitally concerned with the social implication of environmental decisions, particularly those involving the equitable distribution of socio-economic costs and benefits. Furthermore, it is committed to the enrichment of the lives of people from all socio-economic classes.

The third wave of conservation needs to be "deeply rooted in our education system and within the consciousness of the American people." Educational programs need to be coordinated, extensive, and pervasive.

We need to identify and develop educational programs that focus on the causes of the environmental crisis, rather than just the symptoms. It is apparent that we will be facing today's environmental problems in the future, and "breeding" new ones, until we identify the causes of our environmental crisis and develop comprehensive action programs to resolve them.

It is evident that some important causes of our environmental crisis rest in our present consumer and corporate behavioral patterns, our inability to cope with the population dilemma, and the lack of environmental policies and priorities that are responsive to an emerging ethic where man is living compatibly with his environment.

It is vital that we question the concept of consumerism as reflected in the present life styles of Americans. It is easy to get caught up in a cycle created by corporations. For some businesses to be successful and continue, they need to force the consumer into a life style that is in conflict with man living harmoniously with his environment. Citizens of all ages need to examine their way of life to determine the degree to which it reflects a commitment both to protect and to enhance the environment. As an example, citizens should be active in solving traffic congestion both through the political process and by walking, bicycling, or using rapid transit rather than cars. If cars must be used, driving pools should be formed. As consumers, stockholders, voters, and advocates, citizens can help establish sound environmental policy in various ways. Specifically, they can ask informed questions, at the proper time and of the right people. They can boycott a product and campaign for others to do likewise. They can serve on advisory and policy-making committees. They can support and be advocates for sound legislation directed at resolving environmental problems. Citizens can make decisions as they cast votes on environmental issues, as they elect representatives to policy-making bodies, as they act directly upon the environment itself.

The foundation for strong citizen action rests, to a large degree, on what happens in our homes, schools, and educationally related organizations. Today's youth will soon be the citizens and voters whose decisions will affect not only the immediate environment in which they live, but also that of our nation. They will make the choices and cast the votes about recreation, transportation, beautification, water needs, and control of air and water pollution. Therefore, it is imperative that our school systems and youth organizations develop comprehensive environmental education programs so that

our youth will be more sensitive to their environment, better able to recognize environmental problems, more sophisticated in the utilization of problem-solving skills essential to the solution of emerging environmental problems, and more inclined to participate in coping with these problems. Youth should see the importance of relating ecological, economic, social, technological, and political information when working toward the solution of environmental problems.

It is interesting to note that in light of the environmental crisis, few school systems or youth organizations in Michigan have developed instructional programs that provide the opportunity for youth to explore their environment, both physically and intellectually, on order to obtain the factual knowledge and the motivating concern regarding man's relationship and responsibility within the human ecosystem.

In developing environmental education programs for school systems, para schools, and youth organizations, we must have teachers and leaders trained in the art of creating a learning environment, where youth are encouraged to investigate their environment in a problem solving context. The role of the instructor is to assist the learner in: 1) acquiring environmental information; 2) recognizing and clarifying their values concerning the environment; and 3) developing attitudes, values, action skills, and commitment that will enable man to live harmoniously and to survive in the environment. In the vital area of teacher and leadership training, our colleges and universities have a major role to play. Yet, in the past they have fallen short of their mark. Colleges and universities should be providing training for all teachers in the following areas: learning theory; attitude formation and change; handling of values and controversial issues; availability of instructional aids and techniques of utilizing

them; methods of monitoring the environment; principles of curriculum development; and the role of instructors in creating a learning environment.

Corporations and other nongovernmental organizations must be more sensitive to the environment. They must join with educational institutions and government in helping to create an environmentally literate citizenry. Citizens and community groups should be invited to observe the efforts and problems of business and industry in controlling pollution. Industry should be producing educational material and sponsoring programs designed to increase environmental awareness and knowledge among our citizenry. Furthermore, corporations and business must review their advertising in light of environmental concerns.

It is vital that government at all levels play a more integral part in both formal and informal education. This means that workable mechanisms need to be established in government to enable citizens to react to and participate in planning decisions well before the implementation stages. Government must also develop more stringent legislation to safeguard our environment. It is imperative that governmental authorities take a preventive leadership role in solving environmental education problems rather than waiting for widespread signs of stress among the general public and educational institutions.

In developing an informed citizenry, it is important to keep in mind the impact of mass media on both youth and adults. If we consider television, it may well be that the "electronic intruder" has replaced both parent and teacher as the primary educator of children. Dr. Gerald Looney of the University of Arizona reports that the average American preschooler spends 64 per cent of his waking hours watching television. In terms of time alone, the American preschool child spends more time watching television than

he would in the classroom during four years of college. By the age of six this child will have seen 6,000 hours of television, by the age of 14 will have seen 18,000 murders on television, by the age of 17, some 350,000 commercials, and a senior graduating from high school will have gazed into the tube for over 21,000 hours. In the course of his life television will have consumed ten years of his time. The next evening that you watch television, I invite you to take note of the subtle, implicit value messages that are seen every day by millions of viewers.

In the field of mass media, the communicator should be trained to provide various services to the public. On the one hand, the communicator may be required to translate accurately and effectively complex scientific information to a lay audience. On the other hand, he stands between the audience and the decision-makers, communicating the public's response to these decision maker's. In another instance, the communicator may be concerned not only with the analysis of environmental legislation from the standpoint of the impact it has on the biosphere and human communities but also with transferring this information to the people most affected. Colleges and universities have a major role to play in training mass communicators. Their training should include: 1) an understanding of environmental problems, their origins, and possible solutions; 2) a sound knowledge of human behavior and psychology of influence and motivation as it relates to environmental issues; and 3) a command of communication skills.

To develop an environmentally literate, responsive and responsible citizenry, our task is to help every citizen, both young and old, to more clearly understand basic concepts that undergird and support the philosophy of spaceship earth. Some of these concepts are:

Closed System: We live in a closed life-support system (except for solar energy). We have on our spaceship all the air, water, and land we will ever have--space and resources are limited.

Ecosystem: Living organisms and their nonliving environment are inseparably interrelated and interact upon each other. The exchange of material between the living and nonliving parts follow circular paths. The relationships are complex and extremely vulnerable to sudden disturbances.

Human Ecosystem: Man must have a clear understanding that he is an inseparable part of a system, consisting of man, culture, and the biophysical environment, and that he has the ability to alter the interrelationships of this system.

Land Ethic: Man must develop an ecological conscience toward the environment which reflects a commitment of individual and group responsibility to future generations. An ethic where man is not a conqueror of the land community but a citizen of it. Only when each person and community acts in a responsible, ecologically conscious manner will we be able to live in harmony with, and within, our environment.

Population: Our earth is threatened and challenged by our rapidly increasing human population. The most common form of over-population involves not too many people for available space, but too many people for available resources, or too many people for the proper functioning of society.

Environmental Contamination: Increasing human population, rising levels of consumption, and the resultant demands for greater industrial and agricultural productivity inevitably result in increasing environmental contamination. Man must add the concept of recycling for our spaceship system for the residuals of production not only pollute the system, but contribute to the depletion of valuable resources.

Environmental Quality: Man must develop attitudes of concern for the quality of the environment, in terms of both physical and psychological effects, which will motivate him to participate in environmental problem-solving (such as environmental planning).

Environmental Decisions: If man is to live harmoniously within his fragile environment, he must rethink consumer and corporate behavioral patterns as well as governmental policies. New behavioral patterns and policies need to reflect an emerging ethic where man is a steward of his environment. The environmental decisions in each of these three arenas should represent collective interests and should be based on long-term environmental benefits.

Environmental education is founded on the premise that we will be able to resolve our environmental problems only when we have developed in citizens an awareness, understanding, and concern for the environment with its associated problems and the knowledge, skill, commitment and motivation to work toward solutions to these current and projected problems.

The above goals may be achieved by helping individuals and each component of society to:

1. Realize and appreciate that man is an inseparable part of a life support system, and that whatever he does alters the interrelationships within this system;
2. Obtain a basic awareness and understanding of the environment with its associated problems and ways they can be effectively solved;
3. Recognize and clarify their values concerning the environment;
4. Develop attitudes and life styles that enable man to live harmoniously and to survive in the environment;
5. Develop a personal responsibility for environmental protection and enhancement; and
6. Develop action skills and the motivation to work toward the prevention and solution to environmental problems.

Every institution in our society must be involved in environmental education. The responsibility does not rest merely in our schools and government. It must be shared by business, industry, labor, mass media, churches, and youth, citizens, and professional organizations.

Governor's Task Force on Environmental Education

In December of 1971, Governor Milliken appointed 19 citizens to a special task force to prepare a State Environmental Education Plan. The

task force members were from communities distributed throughout the state and represented a wide range of professional interests. During the first eight weeks the task force met weekly to draw up a format for a state environmental education plan and to submit a planning grant request to the U.S. Office of Education. While waiting for the grant to be approved, the Task Force formulated a tentative set of Environmental Education goals for the state. These goals were distributed to over 600 citizens representing broad segments of society.

The next major task was to conduct four public forums or hearings in various parts of the state. The major purposes of these hearings were to provide the opportunity for individual citizens and organized groups to react to the set of tentative goals. The participants were then separated into 13 groups (preschool, elementary and secondary, higher education, youth organizations, church organizations, individual citizens, citizen organizations, professional organizations, mass communication, business and industry, labor government, and state agencies) to make recommendations, identify constraints, and suggest strategies to achieve the environmental education goals and subgoals of the state.

We are present today to react to the overall goals and subgoals. We would also like your reaction to the set of recommendations, constraints, and strategies, developed for each of 13 component groups.

As a result of your input, the Task Force will write the State Environmental Education plan and submit it to the Governor by September of 1972.

Our plan of action is to print and to have broad dissemination of the State Environmental Education plan.

It is the Task Force's desire that full implementation of the State Plan will lead to:

1) support for personal, group and organizational policies designed to maintain or improve environmental and human quality;
2) rejection of personal, group and organizational policies that are harmful to the environment or to the citizens of Michigan; and
3) reversal of tendencies and life styles that create environmental problems.

In summary, Governor William G. Milliken appointed an Environmental Education Task Force to write a State Environmental Education plan. The Task Force developed a set of Environmental Education goals and subgoals and they were modified as a result of citizen input (mailed questionnaires and regional conferences). A set of recommendations, constraints, and strategies to achieve the goals and subgoals were brought forward at the four regional meetings and revised at the state conference. The State Environmental Education plan will be written in August and submitted to the Governor in September of 1972.

Therefore, the State Environmental Education plan will establish a set of Environmental Education goals and objectives based on broad citizen input. It will contain a set of recommendations, constraints, strategies, and priorities to enable both public and private sectors to work cooperatively toward common Environmental Education goals. The State Environmental Education plan will be submitted to the Governor and upon his approval each recommendation will be submitted to the appropriate body for action. The Task Force will also encourage the establishment of a broad-based body to facilitate implementation of each recommendation in the plan. A desired outcome of this effort is to develop a Michigan citizenry that is:

1) concerned about the environment, with its natural, man-made, social, political, and economic problems; and

2) knowledgeable, skilled, and motivated to work toward the solution of these problems.

Therefore we hope that a statewide Environmental Education plan will build a framework for coordinating all Environmental Education activities throughout the state. Traditional education processes as well as non-formal education processes must be included. No Environmental Education opportunity can be ignored. No segment of the population can be excluded. Those at home, in school, in youth groups, in the business world, members of labor and industry, the news media, the professionals--all age groups, all socio-economic groups, all religions, and all races must have equal opportunities to study, understand and act upon common Environmental Education goals and objectives for the State of Michigan.

Throughout this process of developing the State Environmental Education Plan, we have strived for maximum involvement of all citizens. We have appreciated your past effort. We are looking forward to your input at this conference. We will need your future support in helping to implement the State Environmental Education Plan.